What is claimed is:

1. An amplification system comprising:

a peak reduction component that reduces peaks associated with an input signal to provide a peak reduced input signal;

a correction signal generator that generates a correction signal that corresponds to corrections of the peak reduced input signal;

a power amplifier that amplifies the peak reduced input signal to provide an amplified peak reduced output signal; and

a summer that sums one of the peak reduced input signal and the amplified peak reduced output signal with the correction signal to provide a final amplified output signal substantially free of at least one of the signal distortion and out-of-band (OOB) emissions.

2. The system of claim 1, the peak reduction component being a clipping filter.

3. The system of claim 1, further comprising a pre-distortion component that removes at least a portion of at least one of the signal distortion and OOB emissions from the peak reduced input signal.

4. The system of claim 1, further comprising a first digital-to-analog converter (DAC) that converts the peak reduced input signal from the digital domain to the analog domain to provide an analog peak reduced input signal to the power amplifier, and a second DAC that converts the correction signal from the digital domain to the analog domain to provide an analog correction signal.

5. The system of claim 4, at least one of the first and second DACs being delta-sigma DACs, such that the at least one of the input signal and the correction signal are converted into the analog domain directly at a desired radio transmission frequency.

6. The system of claim 1, the peak reduction component adding an anti-peak signal to the input signal to provide the peak reduced input signal and the correction signal removing the anti-peak signal prior to final transmission.

7. The system of claim 1, further comprising a cancellation amplifier associated with amplification of the correction signal.

8. The system of claim 1, further comprising:

a channelizer that separates one of a wanted signal and a peak reduced input signal into a plurality of sub-bands;

a plurality of modification components that modify at least one of gain, phase and offset associated with a corresponding sub-band of the plurality of sub-bands to mitigate at least one of the distortion and OOB emissions associated with the sub-band; and

an aggregator that recombines the plurality of sub-bands into an aggregated signal which is provide to the power amplifier.

9. The system of claim 1, the amplification system being one of linear amplifier system, an envelope elimination and restoration (EER) amplifier, a Linear Amplification with Nonlinear Components (LINC) amplifier, an envelope tracking amplifier and a Doherty amplifier.

10. A transmitter comprising the amplification system of claim 1.

11. A base station comprising the transmitter of claim 11.

12. An amplification system comprising:

a channelizer that separates an input signal into a plurality of sub-bands;

a plurality of modification components that modify at least one of gain, phase and offset associated with a corresponding sub-band of the plurality of sub-bands to mitigate distortion and OOB emissions associated with the sub-band; and

an aggregator that recombines the plurality of sub-bands into an aggregated signal.

13. The system of claim 12, further comprising a peak reduction component that reduces peaks associated with an input signal to provide a peak reduced input signal.

14. The system of claim 12, further comprising a digital-to-analog converter (DAC) that converts the aggregated signal from the digital domain to the analog domain to provide an analog aggregated signal and a power amplifier that amplifies the analog aggregated signal.

15. The system of claim 12, further comprising a plurality of digital-to-analog converters (DACs) that converts the plurality of sub-band signals from the digital domain to the analog domain prior to recombining the plurality of sub-bands into an aggregated signal and a power amplifier that amplifies the aggregates signal.

16. An amplification system comprising:

means for reducing peaks associated with a digital input signal to provide a peak reduced input signal;

means for generating a digital correction signal associated with peak reduction of the input signal;

means for converting the peak reduced input signal from the digital domain to the analog domain;

means for converting the correction signal from the digital domain to the analog domain;

means for amplifying the peak reduced input signal to provide a peak reduced output signal; and

means for combining the correction signal with one of the peak reduced input signal and the peak reduced output signal to provide a final output signal substantially free of at least one of out-of-band (OOB) emissions and signal distortion.

17. The system of claim 16, the means for reducing peaks associated with a digital input signal to provide a peak reduced input signal comprising means for clipping the input signal.

18. The system of claim 16, the means for reducing peaks associated with a digital input signal comprising means for adding an anti-peak signal to the input signal.

19. The system of claim 16, further comprising:

means for separating at least one of the input signal, adjacent spectral channels, and nearby spectral bands into a plurality of sub-bands;

means for modifying at least one of gain, phase and offset of at least one of the plurality of sub-bands; and

means for aggregating the plurality of sub-bands into an aggregated signal.

20. A method of amplifying an input signal comprising:

removing peaks associated with an input signal to provide a peak reduced input signal;

generating a correction signal associated with peak reduction of the input signal;

amplifying the peak reduced input signal to provide a peak reduced amplified output signal; and

combining the correction signal with one of the peak reduced input signal and the peak reduced amplified output signal to provide a final output signal substantially free of out-of-band (OOB) emissions and signal distortion.

21. The method of claim 20, further comprising converting the peak reduced input signal and the correction signal from the digital domain to the analog domain.

22. The method of claim 20, the removing peaks associated with an input signal to provide a peak reduced input signal comprising one of clipping the input signal and adding an anti-peak signal to the input signal.

23. The method of claim 20, further comprising predistorting the peak reduced input signal to mitigate at least a portion of the signal distortion and OOB emissions.

24. A method of amplifying an input signal comprising:

removing peaks associated with an input signal to provide a peak reduced input signal;

separating at least one of a wanted signal, the peak reduced input signal, adjacent spectral channels, and nearby spectral bands into a plurality of sub-band signals;

modifying at least one of gain, phase and offset of the at least one sub-band of the plurality of sub-bands to mitigate signal distortion and out-of-band (OOB) emissions;

aggregating the plurality of sub-bands to provide an aggregated input signal; and

amplifying the aggregated input signal to provide a final amplified output signal.

25. The method of claim 24, further comprising converting the aggregated signal from the digital domain to the analog domain prior to amplifying.

26. The method of claim 24, further comprising converting the plurality of sub-bands from the digital domain to the analog domain prior to aggregation.